

KERAMIC STUDIO

Vol. VI, No. 1

SYRACUSE NEW YORK

May 1904



OF the four problems for this Spring's Competition the first two seem to have been comparatively well understood, and the designs sent in were, on the whole, charming and showed a marked advance over former competitive work. The tile problem however, has not yet been grasped, and we shall make it a feature of our next competition, giving in the meantime some good examples by way of instruction. Mr. Hugo Froehlich kindly consented to act as final judge of the designs.

The flower subject for the August class room will be the Dandelion, drawings of which, by Mrs. Paist, are given in this number; as it is so common a flower, all can make their own studies from which to design. Work must be sent in by June 15.

NATIONAL LEAGUE OF MINERAL PAINTERS

ABOUT a year ago the chairman of Education, Miss Mary Chase Perry, prepared the plan for the work of this year, which was practically a continuation and development of what had gone before.

The work of the previous two years, as exemplified and illustrated in the travelling exhibitions, elicited a great deal of interest, and there was a well-founded hope that the fuller fruition of all these efforts would be shown in the collection to be sent to the St. Louis Exposition. These pieces reached New York last week, and when they were displayed the members of the Advisory Board were confronted with a most serious problem, for out of the small number sent, but nineteen were marked by the Judges. Nineteen pieces, no matter of however high an order of merit, did not seem to make a sufficiently dignified exhibit for as large an organization as the National League of Mineral Painters, and at a special meeting it was unanimously voted to give up the exhibition; the feeling being that the League could better stand the criticism of having no exhibition, rather than that of an inadequate representation.

When put face to face with such a situation, we felt it necessary to search for the explanation. Several letters have been received from the clubs, showing no diminution of interest, but quite the reverse, and giving as partial reasons for the small number of pieces sent, sickness of several members and in one case, the injury of some pieces in the last firing.

The impetus which the study of design has given to a higher standard, all over the country, has made many diffident about attempting work in a new and perhaps untried line. We feel that this really accounts for the non-representation of many, and we believe it the most important factor in the causes for the smallness of the exhibit.

While we feel that the clubs have not done their duty either to themselves or the League, yet we believe that there will be a readiness to attack the next year's work which may prove a partial recompense for the disappointment of this.

The members of the Board and committees have given many days of thought and labor for more than a year, and it

seems a matter of chagrin that so much effort should go for naught, but if the club conscience shall be stirred to greater activity we shall be content.

The tri-ennial election of officers will take place May 5, at 10 A. M., at the National Arts Club, 34th Street, New York, to which all members of the League are cordially invited.

Mrs. Bella B. Vesey, President of the Chicago Club, has been nominated for President of the League. The active conduct of the League has always been carried on in the East, and it seems only a proper tribute to Western enterprise, as we know it, to transfer the centre of activity to Chicago.

IDA A. JOHNSON,

President.

April 11, 1904.

THE AUTUMN COMPETITION

PROBLEM I—Dado in tiles for child's room, to be executed in two to five colors. This calls for a small drawing giving three repeats of border motif and whatever design is used below; a working color drawing of the tiles carrying the design; a careful study in black and white, line or wash drawing, of the motif used—both naturalistic and conventional—i. e., a careful drawing of the natural aspect of the subject, with the separate parts available for design, accompanied by all the conventionalizations of the same which suggest themselves as motifs. First Prize, \$15.00. Second Prize, \$10.00.

PROBLEM II—Fireplace and Hearth for child's room, to be executed in two to five colors. This calls for either a border and repeat or a design which occupies the space allotted. A small drawing of the entire fireplace and hearth must be submitted, together with a working drawing in color of the tiles forming the design. The same to be accompanied by drawings of motif as in Problem I. First Prize, \$15.00. Second Prize, \$10.00.

PROBLEM III—Window box in tiles, to be executed in two to five colors. This calls for a working drawing in colors of tiles carrying design and a small drawing of window box complete. To be accompanied by drawings of motif as in problem I. First Prize, \$10.00. Second Prize, \$5.00.

PROBLEM IV—Tile design for teapot or flower pot stand, in two to five colors, accompanied by treatment over or underglaze. First Prize, \$6.00. Second Prize, \$4.00.

PROBLEM V—Child's set of three pieces, Plate, Bowl and Pitcher or Mug; or washbowl, pitcher and rectangular tray. To be executed in two to five colors, and accompanied by drawings as in Problem I. First Prize, \$20.00. Second Prize, \$10.00.

The Jury reserves the right to withdraw any prize for which there is no sufficiently worthy design.

OPEN TO EVERYONE

No one is excluded—Non-subscribers, foreigners, former prize-winners, are eligible. Mark with fictitious name or sign, same to be on envelope enclosing name and address of competitor.

Competition closes October 15th, 1904. Designs must not be traceable to any existing pattern. All work should be mailed flat. Designs receiving mention will be considered for purchase.

Each design must be made separately and not overlapping another—strive for *simplicity* and appropriateness of design. Any number of designs can be submitted by one person. Designs from foreign countries should be sent by mail, *not* by express or Parcels Post. Registering insures perfect safety of mail delivery.



THE SPRING COMPETITION

PROBLEM I—Decorative study of flower with application to a Ceramic form.

1st Prize, \$25.00—Rockwood Moulton, Pratt Institute, Brooklyn, N. Y.

2nd Prize, \$15.00—E. Laura Ripley, Illinois College, Jacksonville, Illinois.

1st Mention—Minna Meinke, Rockville Centre, L. I.

2nd Mention—Hannah Overbeck, Cambridge City, Ind.

3rd Mention—Emma Ervin, Denver, Colo.

4th Mention—Edith Alma Ross, Davenport, Iowa.

5th Mention—Mary Overbeck, Cambridge City, Ind.

The number of good studies sent in under this section made it most difficult to decide the awarding of second prize

The decorative study by Miss H. Overbeck was very fine, better than either second prize or 1st mention; it was bold and simple but the balance of grey tones was not so good and the applied design was not up to the standard.

The decorative study by Miss Ervin was finer also than second prize or 1st mention, its chief characteristics were charms of grey tones and daintiness. Her applied design, however, was naturalistic instead of conventional.

The study by Miss Ross was good in grey tones and well drawn, the composition was not quite satisfactory. The applied design was simple and good, but she omitted to send a color drawing so that the real value of the design could not be judged.

The study by Miss Mary Overbeck was interesting but not so good in composition and the applied design was incomplete.

PROBLEM II—Child's set of three pieces.

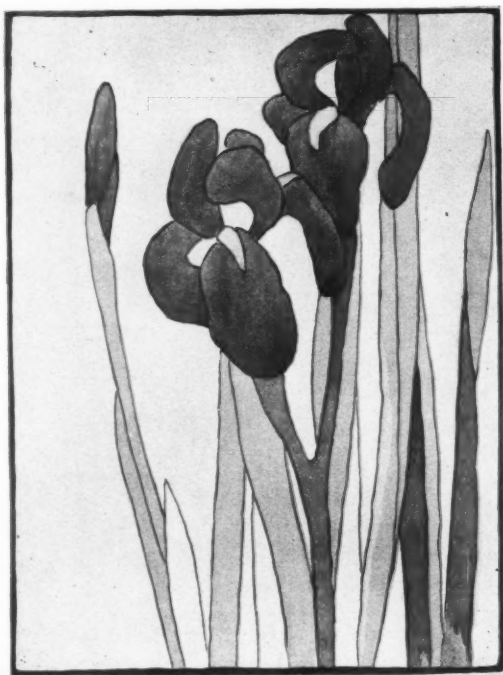
1st Prize, \$15.00—Sabella Randolph, Alfred, N. Y.

2nd Prize, \$10.00—Austin Rosser, Butler, Missouri.

1st Prize \$10.00 (Children's choice)—Lucia Soule, Melrose, Mass.

1st Mention—Mary Overbeck, Cambridge City, Ind.

2nd Mention—Laura Ripley, Illinois College, Jacksonville, Illinois.



MISS LAURA RIPLEY—SECOND PRIZE DECORATIVE STUDY WITH APPLICATION TO A CERAMIC FORM



and the order of mentions. In many cases the decorative study would be especially fine and the application to a ceramic form poor, or vice versa, so the decision had to be made on an averaging of the various counts.

There was no question, however, as to the awarding of first prize; the study is bold and simple as well as finely composed and attractive in every way, the applied design is simple and good. The second prize hesitated between Miss Ripley and Miss Meinke, though a little in favor of Miss Ripley. The decision was finally made on the count that the subject of the decorative study was, perhaps, not so hackneyed and the form to which the design was applied was more original, also the design was possibly a trifle better adapted to the form and the drawing was more carefully executed. Miss Meinke's decorative study was not as interesting as many of the mentions but the applied design was good and the color was especially fine.

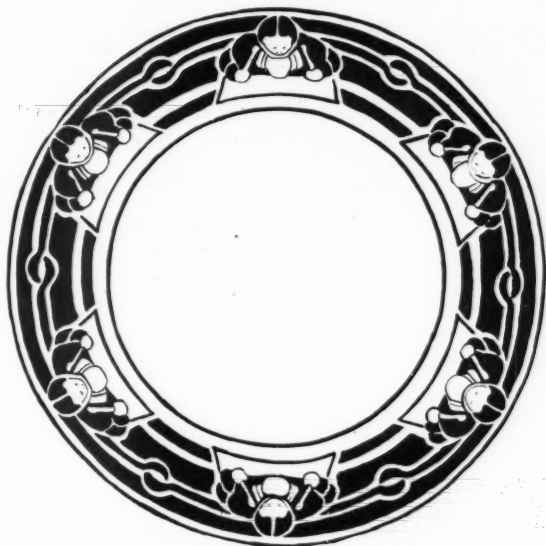
For this problem a large number of good designs were sent, but most used simple flower motifs which were just as appropriate for "grown ups" as for children. So these had to be put apart from the competition. The first and second prizes were awarded by Mr. Froehlich on their artistic merit alone. Then the question arose as to whether the child's own taste should not be consulted. So seven children ranging from 3½ to 12 years were selected as a jury. Every one of the little ones selected Miss Soule's design for first prize, four selected Miss Randolph's design for second, and three chose Miss Rosser's set. So it was decided to award a third prize, called the children's prize. The design in itself is very nice but the rabbit is too pictorial for a satisfactory conventionalization and the line below the rabbits is too thin to form a good support.

Miss Randolph's design for bread and milk set was particularly happy in color, a combination of medium light green

and grey blue on a creamy ground; and Miss Rosser's design for a toilet set to be executed in grey blue was well adapted and very appropriate.

The set submitted by Miss Overbeck was singularly well

amount of dignity which the eagle had but the lion had not. The design by Miss Ripley was good in color and the conventionalization of the dragon fly was also well done but the adaptation to the plate and the shape of the cup were not good.



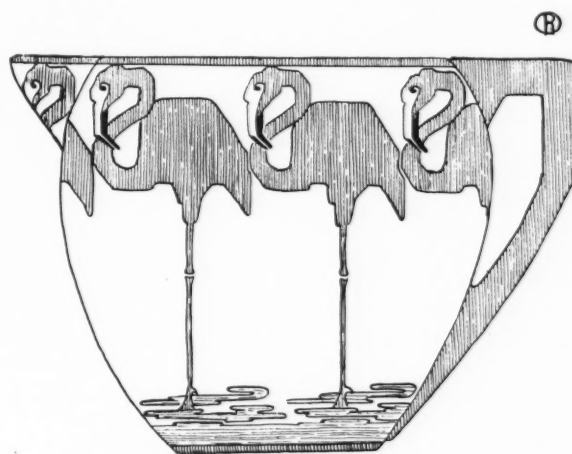
Sabella Randolph, First Prize



Lucia Soule, Children's Prize

conventionalized but verged just a little on the funny. The whole effect was Indian, the motif was the eagle and the lion, but the lion suggested rather a poodle dog, which would perhaps be amusing to a child, but a prize design calls for a certain

On the whole, the designs were very satisfactory and extremely promising. The prizes for tiles were withdrawn as there were no designs worthy, except 2nd prize single tile, which was awarded to Mr. Rockwood Moulton.



Austin Rosser, Second Prize

CONVENTIONAL PEACOCK DESIGN—(Supplement)

Frederick Hurten Rhead

THIS drawing requires as simple and direct treatment as possible. The different masses of color are rather drawn with the brush than painted. Commence with the point of the brush where the shape is thin or pointed, and as the shape widens out, exert more pressure on the brush, thus treating the design as a lesson in brush drawing, which will be of great assistance to the beginner who, as a rule, does not appreciate the full value of the brush.

First lay on a ground of light yellowish green. (I am assuming you require directions for painting on a china slab).

Then fire. Let the drawing be as simple as possible, leaving the details, as the feathers, stones in the foot-path, twists in the trunks of the trees, to be drawn with the brush. For the sky and other parts in yellow, use about 2 parts of White Enamel to one of Yellow and paint strong. The tail and wings are a dark green, it will be advisable to paint the wings first then the quill and outer circles of the feathers, then the masses between.

A rich dark blue is required for the neck of the bird and the inner circle of the feathers. Mix Yellow with the Dark Green, and a small proportion of French or 130 Brown to make the citron tone required for the leaves and stones. Use a good white enamel.

GRAND FEU CERAMICS

X—FIRING—Neuter, Oxidising, Reducing

Taxile Doat

THE fuel adopted for decorated porcelains is wood. Trials with coal have so far only given negative results, whatever the claim of some ceramists, who, in talking, have solved every problem, but whose exhibited works do not show any solution at all. What matters anyway the extra expense of using wood in an artistic production? The important point is to have a tractable fuel. Until the coming of a chemist who will obtain with coal the fresh and brilliant palette which wood gives, I will confine myself to the fuel of which I am about to speak.

The two principal species of trees are oak, the king of the forest, and the humble birch with its gay white bark. The kind of oak generally adopted for firing is the young oak, the bark of which is used by tanners. This tree falls by itself under the action of the sun, after longitudinal incisions have been made in it by foresters. But whether young or old, small or large, straight or knotty, oak can be used. Large trunks are cut into sticks of equal lengths. Large sticks are fed during the first part of the firing; those of medium and small size during the second part or *petit feu*. It is important to throw into the fire mouths charges of equal volume to obtain the necessary regularity in the increase of heat.

Oak has been adopted in Limousin, Vierzon, at Sèvres and by all artists who decorate their works with *grand feu* colors, because on account of its close grain, it burns slowly and evenly. Its action is progressive, without rushes. Birch acts quite differently. Large trunks must be discarded, because of the slow work of their splitting. Birch four and five years old, in medium and small sizes, is the best. It must be sound, straight, without knots or rotten spots and perfectly dry. It should be cut two years before being used.

It is sawed in two, its lengths being about 45 inches (this, 1m, 15, is the length generally adopted for the cutting of wood in the French forests). These sticks are then split into pieces of even size. For instance, a stick $3\frac{1}{2}$ to 4 inches in diameter will be split into six pieces; that of 2 to $2\frac{1}{2}$ inches into three; that of $1\frac{1}{2}$ to 2 inches into two only. A regular splitting allows one to feed evenly and to regulate the combustion. During the *grand feu* firing, birch is used exclusively. Its loose grain allows it to burn instantaneously when placed on the hopper of the fire mouth. It gives a long, clear, intense flame.

The basis of 45 inches being adopted for French cuts of wood, the wood will be cut with two or three sawings, according to the width of the fire mouth, as any false cut and consequent loss of wood must be avoided. The fire mouths of my kiln wood being $17\frac{1}{2}$ inches wide, oak is divided in four pieces by three sawings. It could be divided into only three pieces with two sawings, but its division in four allows me to fill the fire mouth better. Birch is divided into two, each piece being then from 22 to 23 inches long.

I have said elsewhere that after 3 or 4 firings, repairs sometimes of importance must be made to the kiln. The new masonry must be dried out. To obtain this result, a brazier is lighted for two days and two nights in the firing chamber. This brazier is made of placing rings superimposed, about an inch apart. When the kiln is entirely new this brazier must burn for about 10 days, as it is most important to have a kiln perfectly free from moisture. This drying is effected with coke.

Whatever care is given to the construction of a kiln and to the firing, it is impossible to have the same temperature in every part of the kiln. Naturally, the part which is close to the fire mouths is subject to a higher temperature than the

part where the flames leave the firing chamber. I have stated that there might be the enormous difference of 50°C . between the temperatures of the bottom and the vault of the kiln. It is extremely important to reduce this difference and to get as nearly an even temperature as possible by a progressive firing, without any rushes of heat. The firer should be constantly on the watch, especially during the *grand feu*.

The kiln is lighted by placing ten pieces of split birch in the bottom of the fire mouth, crosswise. On top are placed two round sticks of medium size oak. At the same time the stopper of the opening A at the base of the chimney (Fig. 50, page 228, Feb. 1904) is removed. A handful of chips or kindling wood is lighted there to displace the column of cold air which is in the chimney and to start the draft. The fire mouths are covered with a sheet iron plaque (Fig. 80) in the middle of

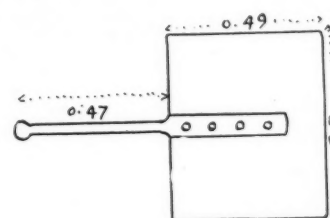


Fig. 80

which is a long iron stem for a handle. The draft is immediately established without any smoke getting into the room. If there is a baking chamber, the opening for starting the draft may be established in the door of this at the foot. Chips and kindling wood should be kept burning there until the draft is well started.

The time of firing a porcelain kiln is divided into three distinct divisions: the *drying*, the *petit feu* and the *grand feu*, or *slow*, *active* and *grand feu*.

The object of the drying is to remove all moisture which the kiln itself or the placing material may contain, either from dampness in the ground or in the atmosphere. I give the records (Fig. 89 and 90) of two of my wood firings so that it will be easier to follow every phrase and to understand better the action of the different parts of the kiln.

The *drying* lasts from 3 to 4 hours during which, every half hour, two large sticks of oak from 7 to 12 inches thick, or their equivalents, five round sticks about 2 inches thick, are placed crosswise and in good order, in the bottom of the fire mouth, as close as possible to the firing chamber. After three hours, one more large stick or its equivalent in small round sticks is added at the same intervals.

The drying being finished, one begins the active firing or *petit feu*, during which the heat must gradually penetrate the masses of placing material and the pieces they contain, all sudden rushes of heat which might cause cracks being carefully avoided. The *petit feu* is obtained by feeding one more big stick of oak or its equivalent in small round sticks every twenty minutes, without any special order. After seven to nine hours of this firing, the entire mass of the porcelain and the saggars has been penetrated and there is nothing more to fear with regard to breaks and cracks. The firing can now progress boldly until the fire mouth is full. By keeping it thus full, the kiln soon becomes red, as can be noticed by looking through the door spyhole. When the kiln has changed from dark red to cherry red, the *grand feu* has begun.

Before one becomes quite familiar with these two phases of the firing, and has learned by practice to obtain the cherry red in the time mentioned, it will be important to start the

grand feu only after the cherry red has completely pervaded the kiln. I reach my results in a definite time with a mathematical precision, which beginners cannot expect to secure, but with observation and care in feeding, they will soon be successful.

The drying and *petit feu* together generally take less time than the *grand feu*.

For the *grand feu* oak is discarded and birch used. The latter is not thrown into the fire mouth, but carefully placed on top of the latter, on the hopper (Fig. 82, 83 and 83 bis.).

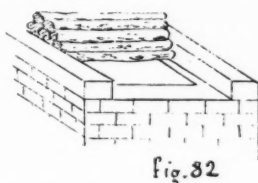


Fig. 82

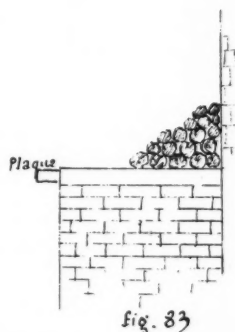


Fig. 83

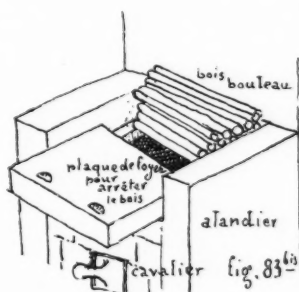


Fig. 83 bis

Every five minutes regularly a handful of about 10 birch sticks is placed against the side of the kiln, and all openings caused by the combustion must be promptly filled. From that time to the end of the firing, the fire mouths must not be lost sight of, as they must be constantly fed. The sheet iron plaque over the fire mouth is replaced by a fire brick plaque which rests on the hopper and supports the necessary amount of wood.

Once in a while, every two hours, and toward the end, every hour, one watches through the spyholes what is happening in the kiln. One sees through the white glass the fusible cones which successively curve and melt when the temperature of the kiln reaches their point of fusion. Behind the cones are three trial pieces which are rapidly picked up with an iron rod slightly curved at the end (Fig. 84 and 85). This rod is

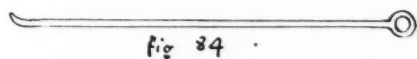


Fig. 84

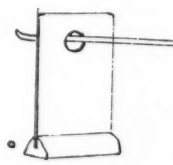


Fig. 85

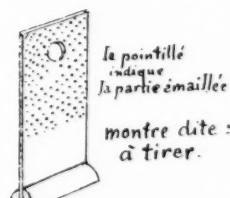


Fig. 86

introduced through the opening of the spyhole, after the stopper of the latter has been removed with the help of wet cloth. The trial pieces show the true condition of the kaolinic matter. When with the help of these two tests and his experience, the firer judges the porcelain fired, he stops feeding fuel, slides two large fire brick plaques over the fire mouths to close them,

hermetically closes all openings and cracks with mortar, and stops the air drafts if any should have been established. The firing is over.

Since the invention of hard porcelain, firers invariably used in order to determine the condition of the porcelain, pieces placed in the middle of the kiln and called test or trial pieces. They are made of little tiles of baked porcelain about 2 inches long and 1 inch wide, with a large hole in the upper part. This upper part alone is glazed. To allow them to stand up, these test pieces have their feet wrapped in a wad of lute which gives them a large and solid basis (Fig. 86). Sèvres and the porcelain industry keep using these pieces which alone show the true condition of the ware. I do the same.

In 1882 the German chemist Seger conceived the clever idea of adding to these trial pieces fusible cones which can be seen during the development of the firing and relieve the operator from the uncertainties and anguish which formerly assailed him during the finishing hours. Simultaneously discovered at the factories of Berlin and Sèvres by chemists who were not aware of their similar work, these cones are made of fritted material of different fusibility. They have the shape of a triangular pyramid (Fig. 87). I will not undertake to

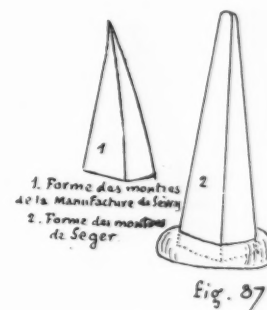
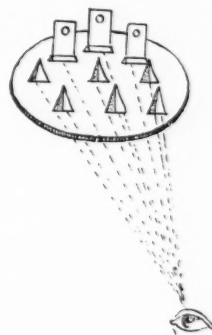


Fig. 87

describe their scientific composition; it will be sufficient to say that their successive melting indicates clearly if the same temperature is reached at the same time in all parts of the kiln where these cones are placed. Ceramists have so much appreciated the services rendered by these cones that their use has become quite general.

I order the cones direct from the makers, Seger & Cramer, Berlin, at the cost of fr. 5, 65 (about \$1.10) per hundred.*

The standard adopted for the numbering of the cones is the melting point of cast iron 1130°C. This is called cone No. 1. Numbers go from 1 to 32, which is the melting point of platinum 1770°C. Numbers which register temperatures lower than cone 1 are preceded by a cipher. They go as far down as the dark red registered by cone 022, or 590°C., the melting point of bright liquid gold. There is only about 20° difference between the successive cones. After many trials I have adopted the following cones for my firing:

For reducing fire	For oxidising fire
Cones 06	Cones 013
1	1
7	7
8	8 (fusion of feldspar)
9	9
10	10 (Sèvres hard porcelain.)

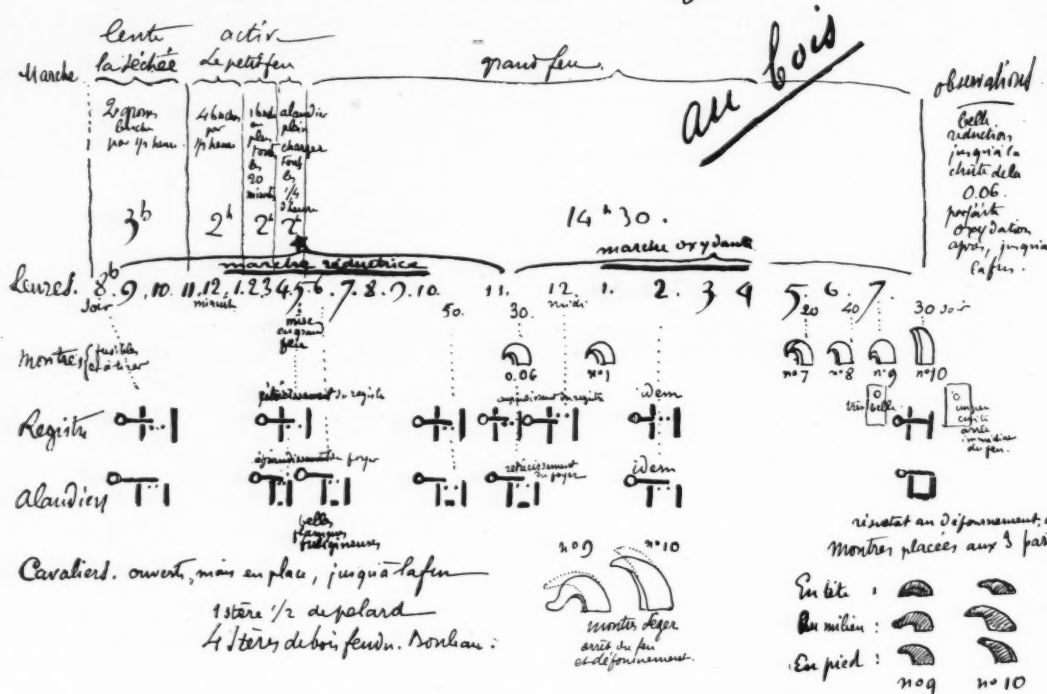
In reducing fire, cone 06, corresponding to the point of fusion of the glaze, marks the limit of reduction in the kiln. No. 10 indicates the temperature at which porcelain is fired and the firing should stop.

*In the United States, Prof. Edward Orton, Jr., Ohio State University Columbus, O., manufactures cones and sells them for one cent apiece.

KERAMIC STUDIO

Reducten 23.^b 30

Four du 18 Juillet 1902



Seeche, drying; *Montre fusible*, cone; *Montre a tirer*, trial piece; *Registre*, chimney damper; *Alandier*, fire mouth; *Cavalier*, stopper of fire mouth, marked by dash at bottom of fire mouth figure; *Defournement*, drawing of the kiln; *En tete*, on top; *Au milieu*, in the middle; *En pied*, at the foot; *Pelard*, young oak; *Bouleau*, birch; *Stere*, French measure for wood, equal to about $\frac{1}{2}$ cord.

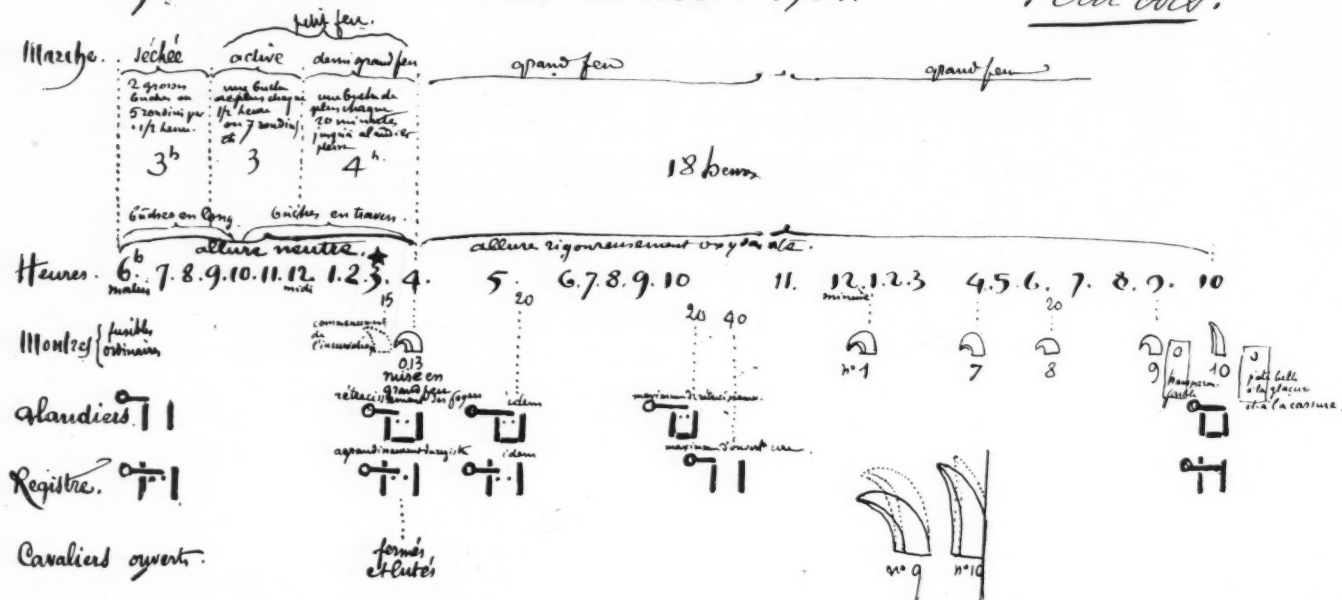
Reducing firing in 23 hours, 30 minutes.—Fine reduction up to the fall of cone 06, perfectly oxidising firing afterwards and to the end. Stoppers of fire mouths open, but in place, to the end, not cemented with lute, so as to let the air go through. Dotted lines on cones 9 and 10 show their position when the firing was stopped, full lines their position as found when the kiln was opened. This firing is a typical reducing firing. Chimney's

damper closed but opening gradually up to cone 06; afterwards entirely open. Fire mouths open at first, then closed $\frac{1}{2}$ up to the fall of 06 (Damper and fire mouths are divided in three parts marked by notches; sometimes the opening or closing from one notch to the next is too much, according to the weather which may or may not be favorable to the draft: in this case the damper or the fire mouth plaques are placed between two notches; this is left to the judgment of the firer.) After the fall of 06, the reduction had to be avoided, the fire mouth was closed half, then two thirds, up to the end, in order to obtain a completely oxidising firing—Very fine results, 26 good pieces out of 32. A few biscuit pieces blistered, a little too much firing, No. 10 having bent forward so that I did not notice it. Pâtes sur pâtes very fine. Reds a little smoky but very fine. In the morning weather was cloudy and stormy until noon; in the afternoon weather very hot.

Oxydant 28 houses

Four du 12 Octobre 1902.

. au bois.



Oxidising firing in 28 hours.—Neutral firing until fall of cone 013, including the drying period, 3 hours, the active period, 3 hours, the demi-grand feu, 4 hours. After the fall of cone 013, oxidising firing for the grand feu period lasting 18 hours. Stoppers of fire mouths open during the neutral firing, closed and cemented with mortar at the fall of cone 013. Fire mouths open at first, partly closed at the fall of cone 013, this closing gradually increasing until at 10:20 o'clock it reached its maximum, before the fall of cone 1. Chimney damper partly closed at first, opening at fall of cone 013 and after until the maximum was reached at 10:40 o'clock. Before cone 013 either neutral or reducing action will have no influence as the fusion of the glaze begins only at that cone. But after cone 013 it is neces-

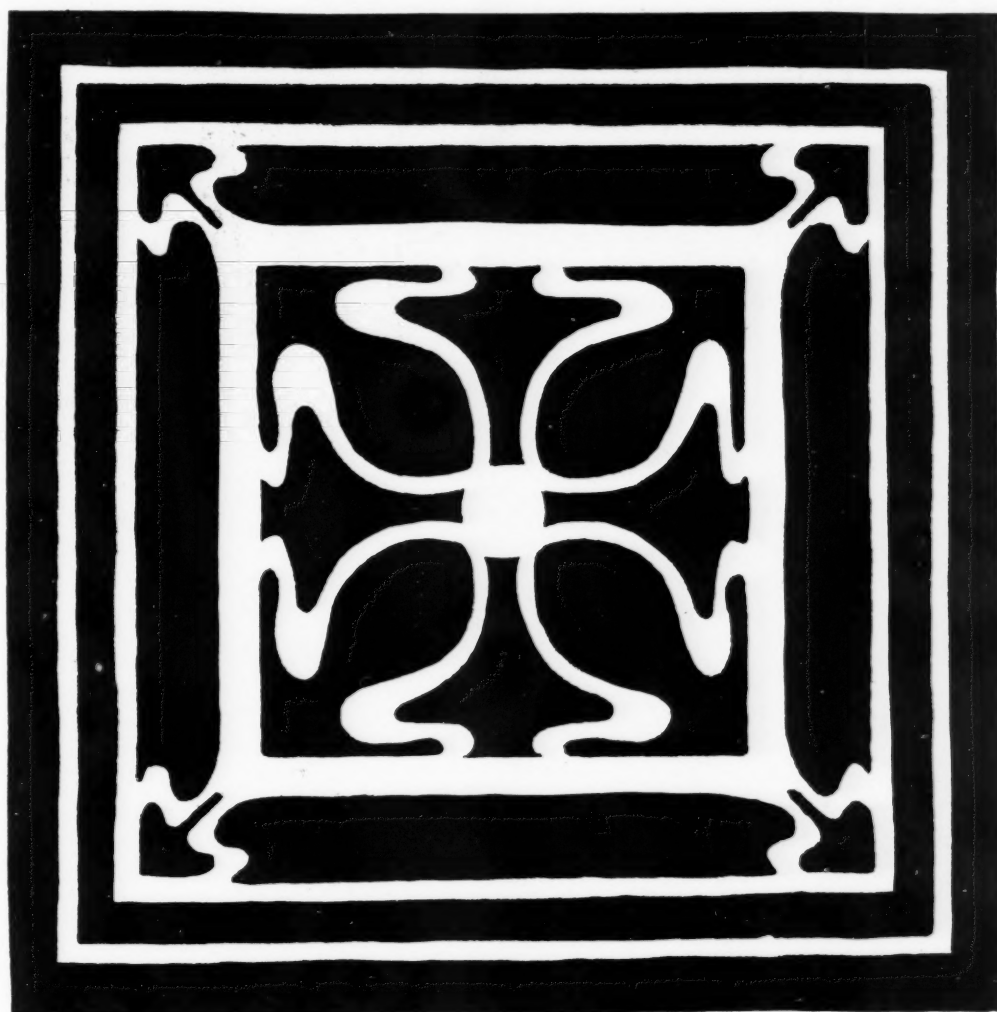
sary to pass to oxidising firing, however slow. One of my more recent oxidising firings has lasted only 25 hours. It will be noticed that in my early coal firings the change of atmosphere was not well established. The two wood firings are types from which, as a principle, one should not depart. After a few trials the firer will be able to have his kiln well in hand. Some very fine pieces in this firing, 19, three of which large, out of 36. A refired large plaque broken (when there are many refired pieces in the kiln the drying should last 5 hours.) The air drafts have worked well, yellows and pinks very fine. Strong wind all day, fine rain in the evening, after midnight, clear, cool weather, very active draft. One stere oak and 4 steres split wood used.

In an oxidising fire, cone 013 marks the point at which the glaze is getting into a condition to be affected by carburets, when all reduction must cease and the firing remain strictly oxidising to the end. Other cones show the progress of the firing. These cones, blunt and long in Germany, large and pointed at Sèvres (Fig. 87), being silicates of alumina, resemble in their chemical composition the kaolinic products which the kiln contains.

Whatever the advantages of these fusible tests, which one

can see but not touch, they cannot be depended upon entirely to determine the exact moment when the firing should be stopped. It is necessary to use for this the trial pieces which can be examined after their extraction from the kiln. These pieces alone show the exact condition of the porcelain, its color, its translucency, the quality of the glaze and allow one to judge whether the firing should be stopped or continued for perhaps a quarter of an hour, half an hour, sometimes an hour.

TO BE CONTINUED.



TILE—SECOND PRIZE—ROCKWOOD MOULTON

ANCIENT MOHAWK POTTERY

R. Horracks of Fonda, N. Y., while stalking deer during the last hunting season at the Little Falls of the upper waters of the Sacandago, near lake Piseco, caught in a heavy downpour of rain, was obliged to seek shelter from the storm under the ledges of the Little Falls.

While sitting there his attention was attracted to what seemed to be a round, brown boulder partly covered with moss. Carelessly striking it it gave forth a hollow sound. His curiosity being excited he dug away the earth with his hunting knife and soon laid bare a symmetrically formed earthen jar.

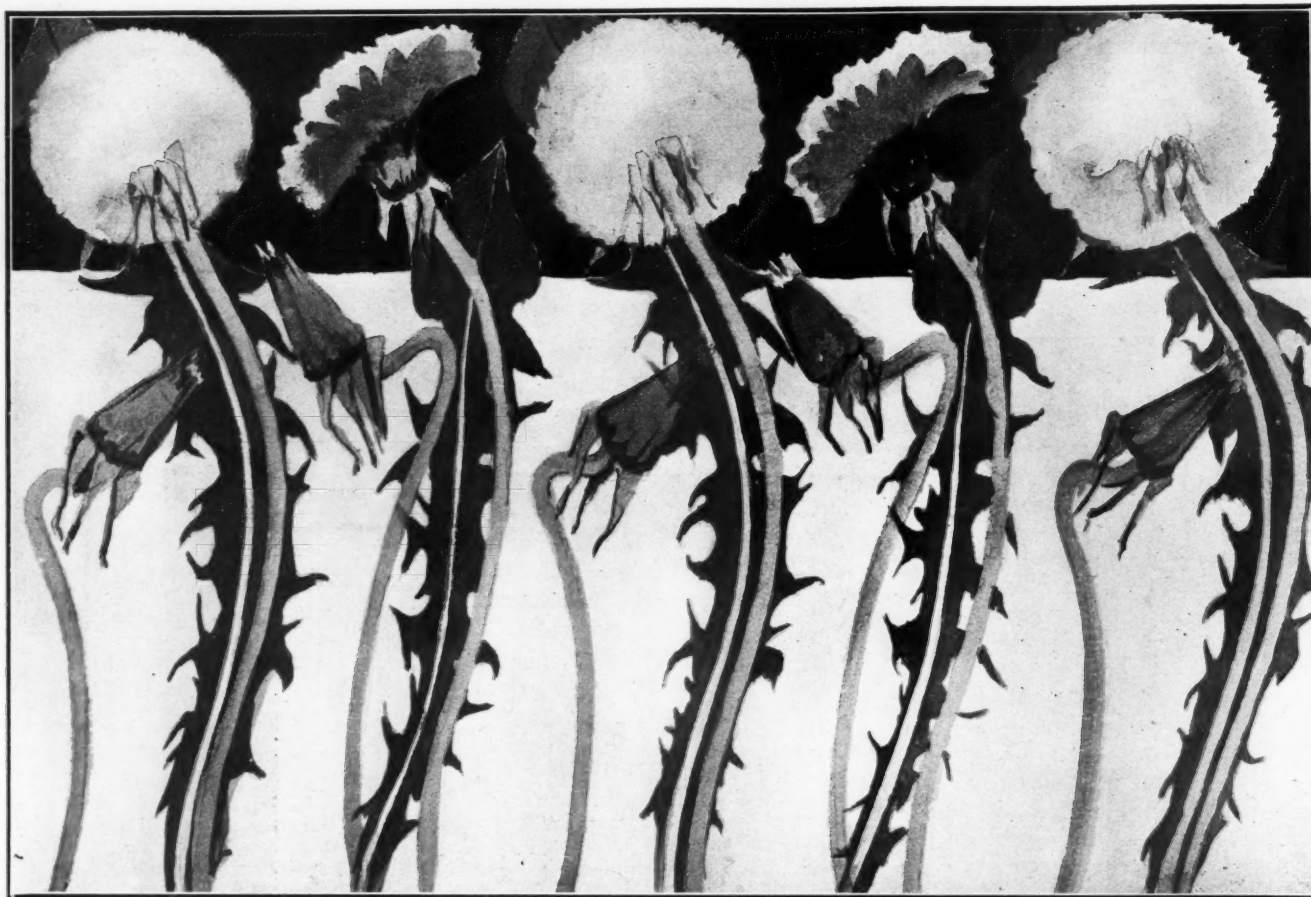
The jar stands 10 inches high. At its largest circum-

ference it measures 30 inches and at its smallest 20 inches. The circumference of the top or mouth of the jar measures 24 inches.

The vessel on the inside bears signs of use, but the outside shows no trace of fire, as is usual in Indian jars. The bottom is rounded.

The ornamentation around the top is of the usual style of the Mohawk pottery—that is, a series of straight and diagonal lines.

The jar is a well-preserved specimen of Mohawk pottery, and is rare on account of the shape of the top, which is cut in three curves, forming three points, which gives it a triangular appearance.—*Boston Morning Globe*.



DANDELIONS—CONVENTIONAL STUDY—HENRIETTA BARCLAY PAIST



TREATMENT OF DANDELIONS

Henrietta Barclay Paist

LAY in with flat washes. For the leaves and buds a crisp green—Moss Green J and Brown Green (or Dark Green) mixed. For the flowers, a strong wash of Albert Yellow. The stems White or Pale Green. The whole outlined against a background of Black and Yellow Brown.

PORCELAIN OF SEVRES

IT is exactly 150 years since the porcelain manufactory at Sèvres, which has now practically become a school of industrial art, was established.

The principal building at Sevres contains the collection of the ceramic museum, which occupies the entire first floor, the ground floor being taken up with the newly manufactured products permanently exposed, the salesrooms, the library and the offices of the administration, on the second story the collection of models classified by epochs, which offers valuable material for the history of art during the last two centuries.

The studios are grouped behind the central building, with which a glass gallery places them in connection.

First comes the furnace hall, connected directly with the large studio for the fashioning of pieces of sculpture, the enameling studios, the studios of sculpture and decoration, the experimental studios, the technical museum, the hall of demonstration, and the different rooms for the students of the institution; finally, the casting rooms, those for mounting the different pieces, and the reserve room, in which one finds a collection of paintings and studies of the highest order, the dominating work being that of Francois Desportes.

Isolated from the other buildings is the building devoted to artists, in which the work of decoration by the employment of enamel glazings, the work of gilding, of chiseling, and of mounting is performed.—*Boston Journal*.



WHEAT



TANSY

PHOTOGRAPHIC SILHOUETTES FROM FLOWERS—LETA HORLOCKER



CELTIC PLATE—MRS. DANTE C. BABBITT

DIVIDE the plate in twenty parts. Trace on design and outline in black (equal parts Ivory Black and Dark Blue). The outer band is Dark Blue, Brunswick Black (Dresden) and a touch of Deep Purple. The inner lines are the same but much lighter, also the ground of design. Float the color on as evenly as possible and fire hard.

For second painting add $\frac{1}{8}$ Aufsetzweis to the mixture of blue using turpentine only. Fill in the design with green, using Apple Green, Mixing Yellow, a little Brown Green No. 6

and $\frac{1}{8}$ Aufsetzweis. These are the colors used in the Celtic ornaments. Another treatment for this design would be to outline in warm Grey, tint ground a rich pink using Deep Red Brown. Make outer band of gold and green bronze, $\frac{3}{4}$ bronze, $\frac{1}{4}$ gold. Fire and tint in Olive Green (Dresden). Clean out the design, retouch gold bronze and fire again. The green tint over the pink gives a very pretty soft color, and in combination with the pink design and bronze edge is very pleasing.



STRAWBERRIES K. E. CHERRY

(Treatment page 12)



GLOXINIA

Rockwood Moulton

This flower is deep red, crimson and deep purple, sometimes shading into white at the ends of the petals.

TREATMENT OF STRAWBERRIES (Page 11)

K. E. Cherry

FIRST fire—for berries, use Yellow Red, Carnation and Blood Red; for greenish berries use Albert Yellow, Moss Green and Carnation. Leaves, use Moss Green, Apple Green, Brown Green and Black. Blossoms, use Copenhagen and Yellow, for shading, Yellow and Yellow Brown for centers.

Second fire—for berries, wash Yellow over lights and Carnation and Blood Red over shadows. Second fire, leaves: wash Yellow, Moss Green; accent veins with Violet and Brown Green. Background Yellow, Yellow Brown, Violet, Copenhagen Blue.

* *

DISHES UNBREAKABLE

DINNER plates which your servants can idly drop upon the stone floor without breaking and dishes which make excellent hammers with which to drive nails are the discovery of United States Consul James C. McNally, at Liege, Belgium. Here is the story in his own words:—

"The Company Du Val-St. Lambert, of Liege, is manufacturing a hardened crystal dish, which in appearance closely resembles fine translucent china of uniform shape and manufacture. The resisting power of this ware is due to a special hardening process and to the quality and nature of the crystal used. It not only successfully resists the usual wear and tear but is almost proof against breakage.

"A hardened crystal dish can be substituted for a hammer in driving nails into wood, while the same ware can be put into boiling water at a high degree, then plunged into ice water repeatedly, without the least noticeable damage to the dish or plate.

"The writer has seen plates of the usual form, of this hardened ware, hurled to the stone floor of a warehouse and go bounding along the whole length of the building without suffering the least damage. This same firm makes glassware of the same corresponding resistance."—*N. Y. Herald.*



APPLICATION OF GLOXINIA TO A KERAMIC FORM, FIRST PRIZE—ROCKWOOD MOULTON

DECORATIVE STUDY OF GLOXIANA

FIRST PRIZE

ROCKWOOD MOULTON



CONVENTIONALIZATION IN DESIGN

Hugo Froehlich

TO conventionalize a plant form is to adapt the characteristic lines of the plant to the space which it is to occupy. These lines must be consistent with the structural lines of the object which they decorate. The difficulty, according to this definition, lies in *adapting* the characteristic lines and in making them *consistent* with the structural conditions of the object.

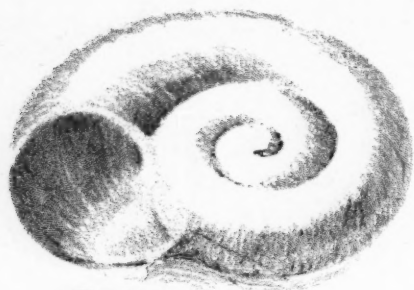


Plate I

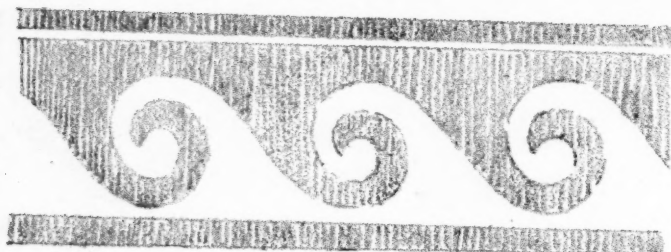


Plate II

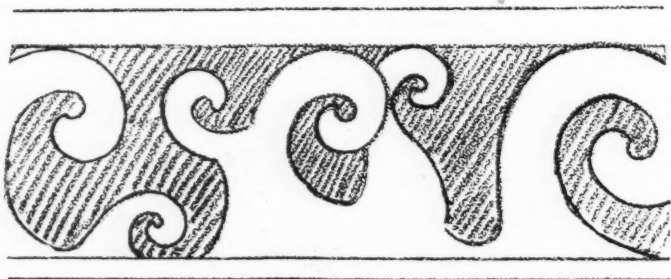


Plate III

All forms included in the term "nature forms" possess in their contour a quality known as beauty of line.

The long sweep of the iris stem and leaf, and the delicate edges of its flowers make a combination of characteristic lines which appeals to our sense of the beautiful. It must be admitted that there are other elements of beauty in the iris plant, such as its color and modeling; however, its line element forms the chief source of delight and suggestion to the designer. This characteristic line quality is found in other aspects of nature such as landscapes, figure and animal forms; hence the necessity for going to nature.

It is the designer's art training, however, that enables him to see beauty and gather a wealth of material where others glean but little. As far back as we know, that has been true of all designers. Egyptian art which is the earliest record we have, bears out this statement.

The religious significance given by the Egyptians to the lotus, scarab, hawk, bull and other forms, coupled with their picture language, has resulted in a style full of variety and rich-

ness of art expression. They have, as it were, been father to design and directly or indirectly have influenced all historic styles. From Egyptian art have been evolved the laws of design which governed the art of subsequent nations, known as historic styles. It is for this reason and that of their inherent beauty, that we consult the art records of the past. We go to the past for the grammar of art but we go to nature for inspiration. The past teaches us how to use the lines, masses, and color found in nature.

Let us verify this. In Plate I we see the shell form. Its adaptation in the Greek border Plate II shows the process of the designer's mind in translating the natural form into a motive.* The spiral of the shell suggested design possibilities, because every spiral has by its related line movement a charm that attracts the eye. The arrangement, however, of the spiral in a border required a complete knowledge of the principles of design.

It is this problem of arrangement according to the laws of composition, that presents the greatest difficulty.

The same spiral may be used in a border as in Plate III and not produce beauty or art, because the arrangement violates the laws of design. There must be plan and order.

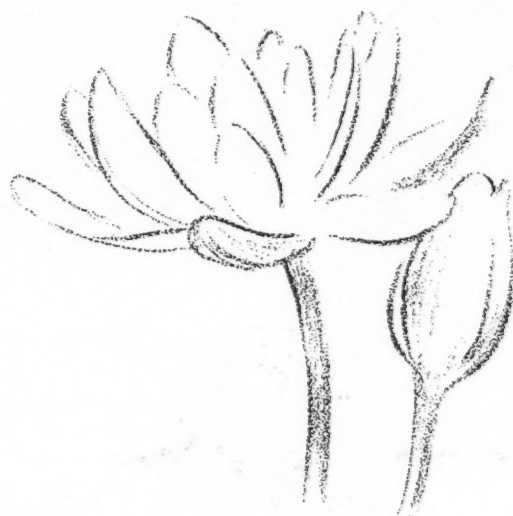


Plate IV

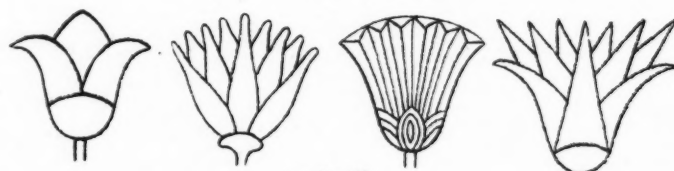


Plate V

Plate IV represents the natural lotus flower, in its detail, perspective, and accident of growth. In Plate V we see four conventional renderings of the lotus. All details and accidents are eliminated. Only characteristic lines are retained and even these have undergone modifications prompted by the individuality of the artist. However, in each case, the law of growth has been expressed and the arrangement of parts can be traced back to the natural flower as in Plate VII.

Sometimes the law of growth is disregarded as when a

*A "motive" in design may be one of two kinds, natural or purely imaginative; a natural motive may be any form of nature, as animal, plant, crystal, cloud, brook, wave, road, or any landscape feature used as material in design. A purely imaginative motive is any straight or curved line expression, or any abstract shape bounded by straight or curved lines.

flower is separated into its parts and some of these parts enter into new combinations as in Plate VIII. In this border and surface pattern the motive taken from the cornflower, Plate VI, has been reduced to a mere symbol which shows almost no elements of growth. It is like an abstract shape and lends itself easily to some of the laws of arrangement such as rhythm or repetition.

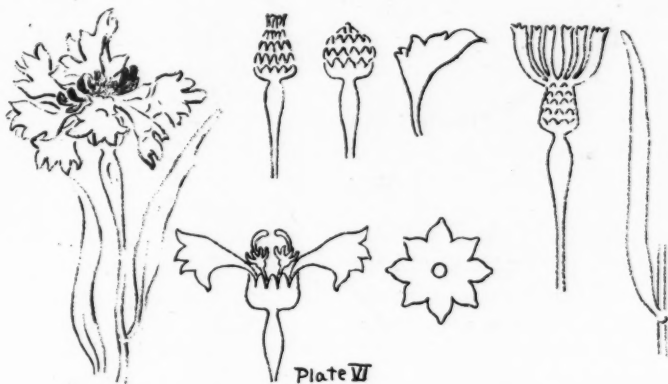


Plate VI

The Moors were prohibited by their religious beliefs from portraying any living thing. In spite of these limitations they have given to the world one of the most beautiful styles in ornament. Like all designers they have depended on the



Plate VII

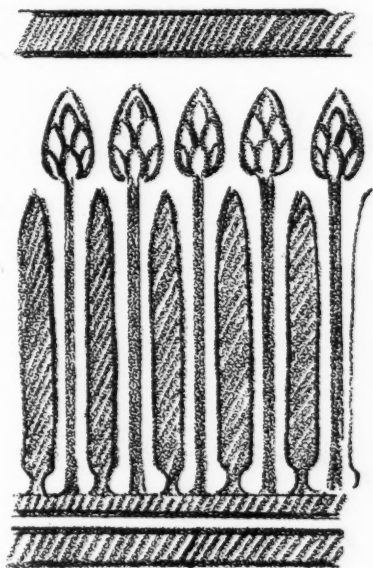


Plate VIII

language of line, mass, and color, but unlike the designers of other nations and beliefs, they have not dared to go to nature for material. In spite of this, the musical line quality of their intricate patterns finds its prototype in the growth of a plant. Their minds, keenly alive to beauty, could not help but be influenced by the beauty offered by nature. Without actually copying nature, they were influenced by her in every line. This can be seen in Plate IX.

The art movement of the present time, known as L' Art Nouveau, is another instance in which the consistent and

rhythmic quality of natural forms has influenced design. See Plate X.

The long swinging lines of stem and leaf are material whose possibilities of adaptation appeal strongly to the artist's mind. He finds in them certain structural features that he can easily relate to an object. Unfortunately, much of the so-called Art Nouveau ornament is decadent because it violates the laws of composition, in being too ornate and undignified.

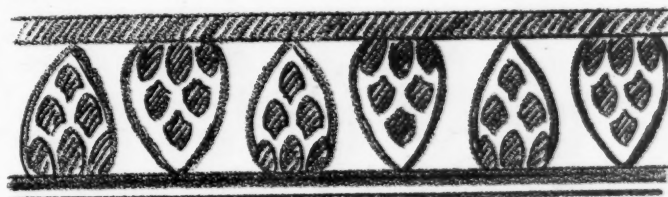


Plate IX

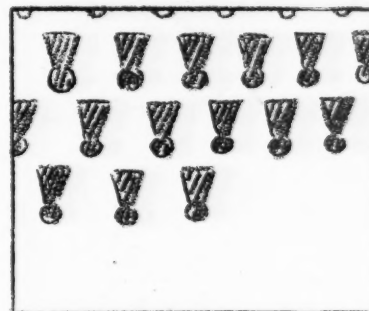


Plate X

It appears, then, that to make a convention of some motive, we are influenced by nature but need not necessarily show the exact source. A plant must be changed so as to adapt it to its new function. Dresser says: "Mere imitation is not ornamentation and is no more art in the higher sense of the term, than writing is itself literature, for in the production of ornament there must at least be adaptation. Our so-called natural wall papers well illustrate the first or most elementary step taken towards the production of orna-



Plate XI

ment, for adaptation has been considered so far as is absolutely necessary, in order that the design may repeat in the mechanical manner necessary to its production. If mere imitation is ornamentation, then the ornamentist must at once give place to the photographer, who by his art repeats natural objects

with far more accuracy than the most careful draughtsman; but photography cannot invent, as it is devoid of the mental

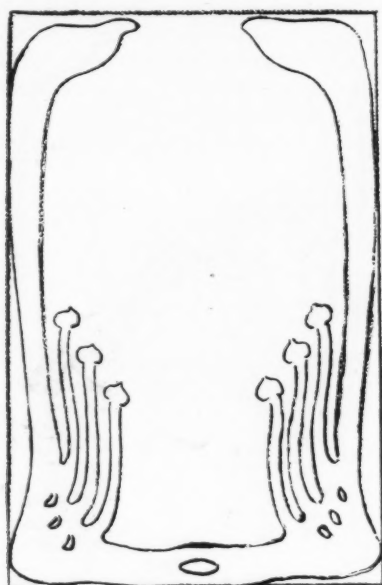


PLATE X

imaginative faculty, for the working of the mind is essential to the production of decoration."

Sir Gardiner Wilkinson expresses himself similarly: "The imitation of natural objects for mere ornamental purposes usually disagrees both with the materials used and the place where they are introduced; it is also an indication of poverty of invention and a deficiency of taste for design. To obtain ideas of ornamental art, nature should be carefully studied, and the beauties she presents should be fully understood, but she should not be directly copied."

To adapt a motive we must avoid detail, we must simplify by rejecting any parts that are accidental or that will interfere with an almost symbolic interpretation of the motives as in Plates XI and XII. In its use it should never seem to be an added thought; that is, it must not be applied, but must be a necessary part of the structure. A handle on a vase may have the appearance of being stuck on, or it may be a part of the structural plan of the vase. Ornament ought to be considered in the latter or structural sense.

It often happens that the decoration of an object appeals to the observer more strongly than the object. In such a case the balance has been disturbed. Sometimes this is due to the convention of the design, especially when its lines are not consistent with the structural lines of the object.

It follows, then, that while some skill is required in selecting the characteristic lines of a motive, and in making a convention of it, more skill is required in adapting it to some form. This ability to adapt the motive to form requires a knowledge of consistency of line, adjustment of areas and harmony of color.



Plate XI

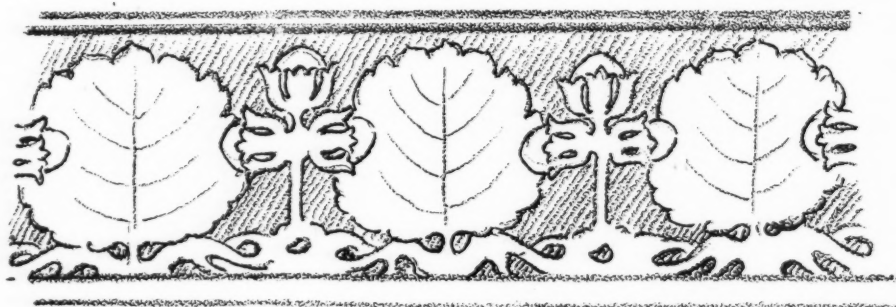


Plate XII

LUSTERED POTTERY

IN one of our popular monthly magazines, a few years ago, there was an article on Mexican lustered pottery. In this article it speaks of the famous Italian pottery of the 16th century, decorated with paintings and brilliant lustre. This lustre work was iridescent and of remarkable beauty. The art of producing it was borrowed from the Saracens and improved on by the Italians. This style of pottery decoration soon passed out of fashion and the art of making it became lost. The nearest approach to it was the copper lustre of the English potters in use about a century ago. Of late years much money and labor have been expended in trying to learn the secret of this lost art, but without success.

In 1887 Charles Dudley Warner astonished the art world by the discovery of a half-dozen specimens of pottery, decorated in rude relief, but entirely covered with iridescent lustre of the same quality as the best old Italian pieces, in

Mexico. This discovery gave rise to the question: were these wares the independent discovery of the Indians who made them, or was the art transmitted to the new world from Italy? This question has not been satisfactorily answered. Since then pottery of the same description has been found in New Mexico also, made by the Indians.

STUDIO NOTE

Mrs. Margaret Sellers of Belle Plaines, Ia., will remain in Miss Stewart's studio during her absence in Europe and carry on her business.

In the mission furniture group is found a pretty dressing table to which is attached a square mirror set in a heavy frame of dark oak. On either side of the mirror are sconces for holding candles.



PLATE DESIGN—MARIE CRILLEY WILSON

Outline design on plate with pompadour red; fill in with gold; background of Capucine Red and a little Deep Red Brown.



COWSLIPS

Austin Rosser

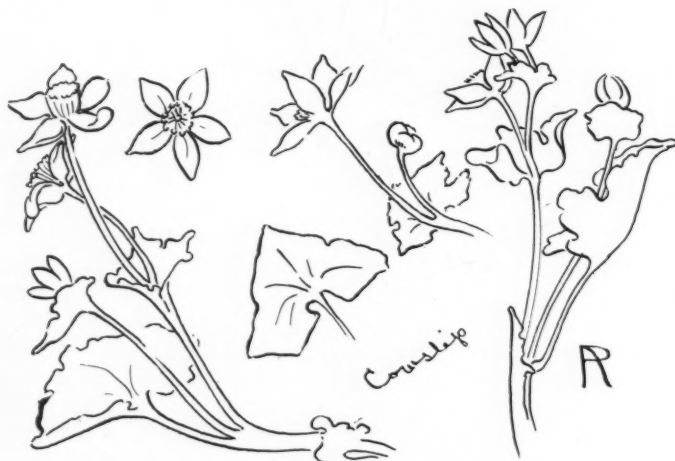
Use two shades of soft blue. The darker spaces and outlines are flat enamel which is fired before ground laying over entire surface a lighter shade of blue.

CHINESE WORKMANSHIP

IN the metal room of the Museum of Fine Arts there has been placed on exhibition some remarkable specimens of Chinese and Japanese pewters. In these days, when old pewters are the rage among collectors, these examples from the orient will be indeed a revelation.

The making of pewter in China extends back to the 10th century, and in Japan to the 16th century. Its manufacture in the latter country was derived from China, but once introduced, it was energetically fostered by the rulers of Japan.

In the present collection, the object which is probably most impressive is the great Chinese covered jar in case 9, which dates from the King dynasty, in the 14th century. It is



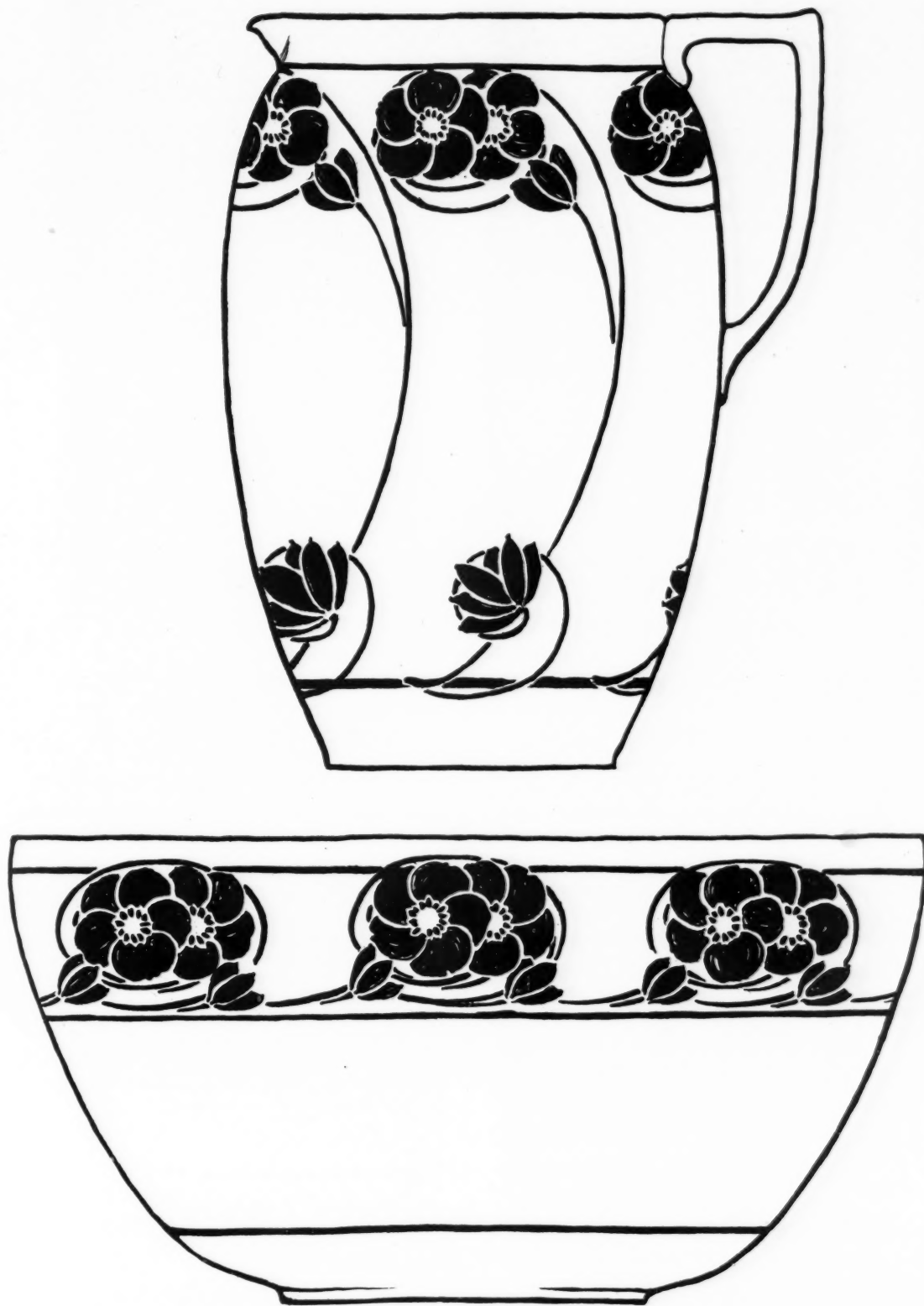
eight-sided, and is very graceful in line; slender and narrow at the base and gradually widening upward.

The library incense of three pieces is another remarkable piece of work. A supple monkey, dressed in brass pantaloons and a collar of leaves, holds aloft a leaf as a tray. The incense burner itself is severe in line, by way of contrast.

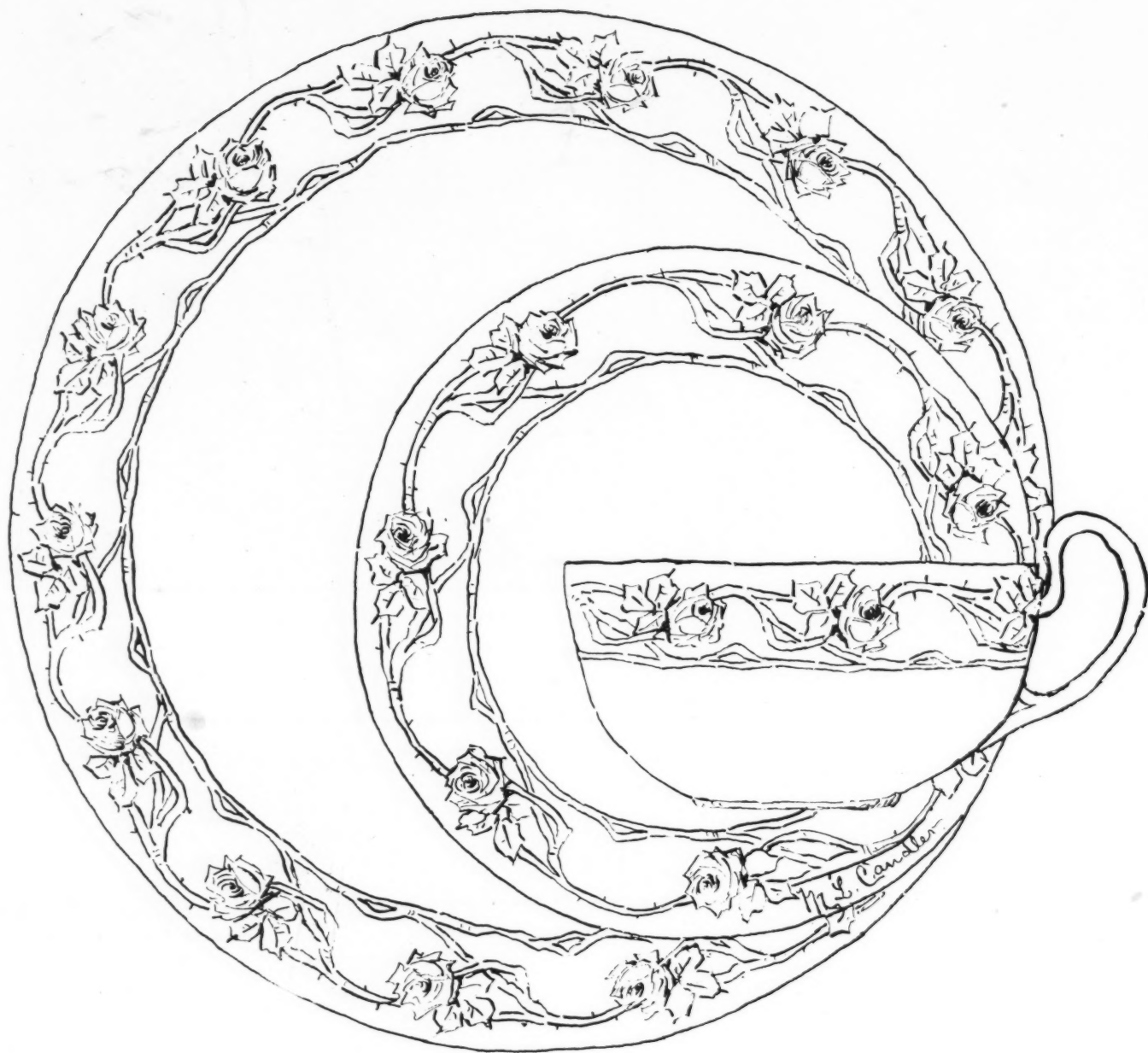
There is also a teapot of unusual workmanship, with channeled sides, a jade spout, handle and knob. This is from the 17th century. It has an unusual combination of metal and stone surfaces.

In the next case are two inlaid pewter salvers with pictures on their surfaces in brass. These pictures represent the great Yu, who turned back the waters from primeval China.

Among the Japanese pewters is a delicate ovoid vase with speckled surface, and one in the form of a bamboo stem with brass inlays. There is also a double basin by Suzuya Zayemon of inimitable surface and color. This dates back to early in the 18th century.—*Boston Evening Globe*.



DESIGN FOR WASH BOWL AND PITCHER IN BLUE AND GREEN—ARTHUR KIDD

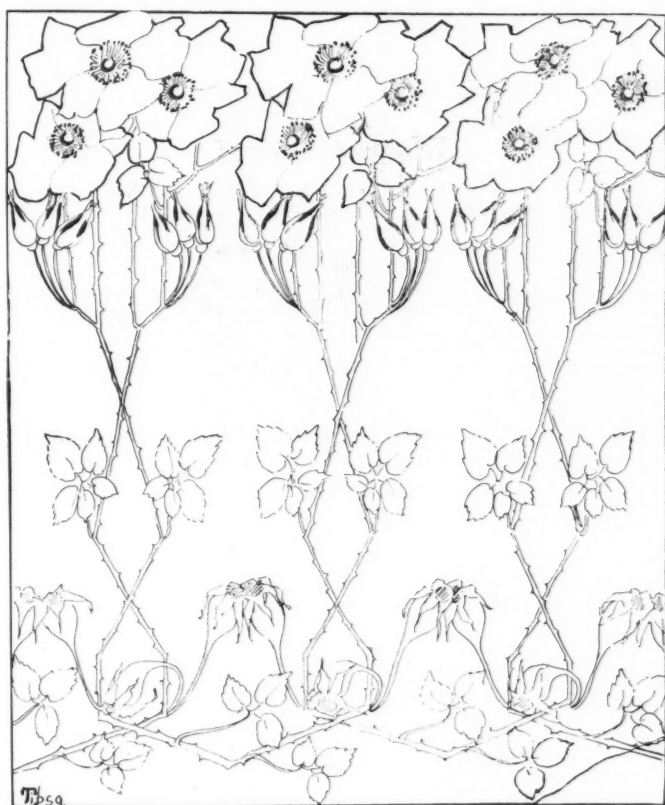


DESIGN FOR CUP, SAUCER AND PLATE—M. L. CANDLER

To be executed in Yellow and Green, gold outlined with Red, Brown or Black. Tint edge to design with Yellow or Green.



WILD ROSES—HENRIETTA BARCLAY PAIST



LAY in with flat washes. The flowers with pink (Carminé 53, Dresden or any good pink). The centers, Yellow; stamens and stems, Sepia; leaves and buds in a delicate green (Moss Green with a touch of Dark Green). The seed pods or fruit, a bright red (Pompadour or Deep Red Brown).

The background may be a combination of blue (Russian Green), cream (Yellow Ochre) and green at the base—or it may be carried out in different tones of green. Dark at the base and behind the flowers and pale through the middle.

In a den or a small sleeping room a wall cabinet is a great convenience and frequently an excellent substitute for the larger case which space forbids. Of dark quartered oak, with burnished copper fittings, the spaces on either side of the little cabinet in the center are just the thing for the pet books that every one owns and always likes to have within reach, while on top some treasured piece of pottery or crystal may be advantageously displayed. The central cabinet makes a handy receptacle for a variety of articles and the decoration of the door, may be ornate, the burnished copper handle and fancy design on the lower panel affording an excellent contrast to the dark brown wood.

One of the latest fads in belt buckles, and, in fact, jewelry of every kind, is the rage for white coral. It is not very expensive and is most ornamental and becoming. Red coral has been fashionable for the past two seasons in combs, chains, buckles, etc., but now white has completely captured the lead, even for men, as sleeve links and studs.

THE CRAFTS

WOOD CARVING AND PYROGRAPHY. LEATHER AND METAL. BASKETRY, ETC.

Under the management of Miss Emily Peacock, 6 Brevoort Place, Brooklyn, N. Y. All inquiries in regard to the various Crafts are to be sent to the above address, but will be answered in the magazine under this head.



THE Annual Spring Exhibition of The New York Arts and Crafts Society was held at the Guild House, 109 East Twenty-third St. from March the 22d until March 26th. The exhibition showed much interesting work in the various branches of applied art and a marked improvement on that of a year ago. The exhibition of

baskets deserves great praise. The workmanship was good, there were many good shapes and interesting designs. Miss Mary White's moth basket was beautifully woven, the colors in the moths were soft and harmonious, particularly suitable for the weave used.

Miss Mary White Miss Acker Mrs. Carl Hollander Mrs. Gates



Mrs. Carl Hollander Mrs. Gates Mrs. E. S. Thompson Mrs. J. S. Hockenhall

From the Belchertown Arts and Crafts Society Mrs. E. S. Thompson sent a copy of a famous Indian rattle snake basket in brown and natural raffia and Mrs. J. S. Hockenhall a copy of a Navajo Indian sacred basket used in the marriage and other religious ceremonies. The white pathways in the design were for the use of the Spirit in passing in and out of the basket.



Six baskets of Mary Frances Dorrance Annie S. Kendall

From the Greenfield Arts and Crafts Society Mrs. Carl Hollender sent some good shapes. Miss Brown's cologne

bottle in brown and natural raffia was very attractive as also the twine baskets and flasks by Miss Acker.

The work of Mary Frances Dorrance is always attractive, there is a bigness and firmness about her baskets combined with the beautiful tones of the natural grasses, the husk of the corn and other materials used.

Miss A. S. Kendall's covered cracker jar in flat reeds and rattan in natural color, with design in green, was something new, as also her covered mason jars with reed handles for carrying. The small work baskets by Miss Sara G. Norrie were exquisite, they were made with a bodkin from Sicilian palm, and especially attractive was the one in brown and natural color.



Mary Frances Dorrance

Many of the rugs and textiles were delightful in color quality and texture, notably the hand spun and woven hangings from Berea College, Kentucky, and the Russian homespun covers for tables and cushions designed and worked by Mary Francis Dorrance in natural grasses. A word must be said in passing of this charming handiwork, the color and texture of the material, the simple designs worked with the grasses, possess a quality that is individual and pleasing.

Mrs. Priestmans' Martha Washington rugs, those of Mrs. A. B. Deady and Miss A. M. Hicks, were good in color quality and workmanship. Miss Hicks' hangings and cushion covers

in cotton and raw silk are called Batiks, these were very interesting in treatment, being a revival of the primitive way of getting a design on cotton.

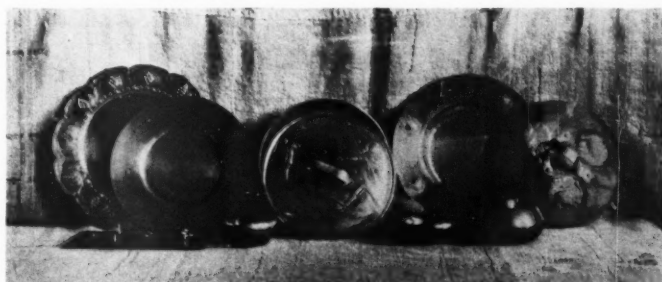


Miss A. M. Hicks

There was quite a little metal work and jewelry, but the different styles of work in jewelry would have shown to better advantage if more space could have been given to each exhibit.

Dr. Busck

Dr. Busck

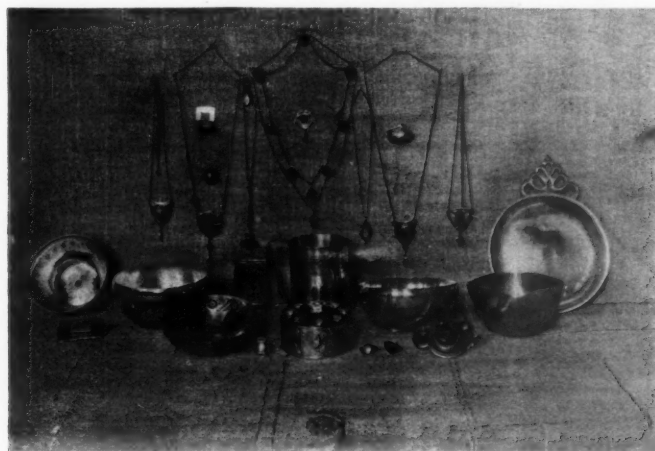


Miss C. Ogden A. M. Froehlich E. F. Peacock A. M. Froehlich

We illustrate some hammered copper plates, also one of excellent workmanship in copper and brass and a silver repousse bowl by Dr. Busck; a well proportioned and simply wrought brass tray and snuffers by Miss C. S. Ogden; two very quaint and refreshing casserole covers, a silver repousse

bowl, two cleverly made rings, a silver pendant set with fresh water pearls and two silver brooches by Ava M. Froelich.

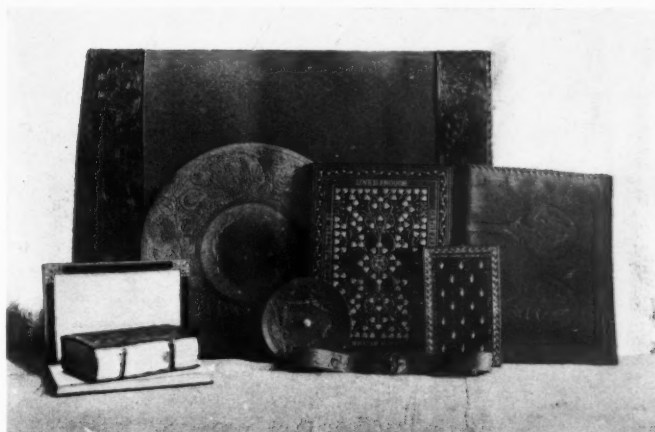
An enamelled silver match box and a delightful silver bowl by Miss M. P. Winlock; a silver pendant set with turquoise matrix and two silver buckles by Mary E. Peckham, who also had some very attractive silver chains set with Thompsonite. Mrs. K. S. Wrights' silver porringer, a dainty gold pendant and a silver ring by Ellen P. Day. A pendant and silver brooch by



A. M. Froehlich M. E. Peckham J. Pratt E. F. Peacock A. M. Frazer E. P. Day
K. Wright H. G. Rogers Dr. Busck Miss Copeland M. P. Winlock M. C. Knight

J. E. Pratt; a silver necklace set with Amethysts, a silver pendant set with Mexican opals, a pair of quaint silver shoe buckles and a child's silver cup by Emily F. Peacock and a cleverly beaten bowl by G. H. Rogers.

Mrs. Busck



Miss E. G. Starr Mrs. Busck Peter Verberg Miss E. G. Starr
Peter Verberg

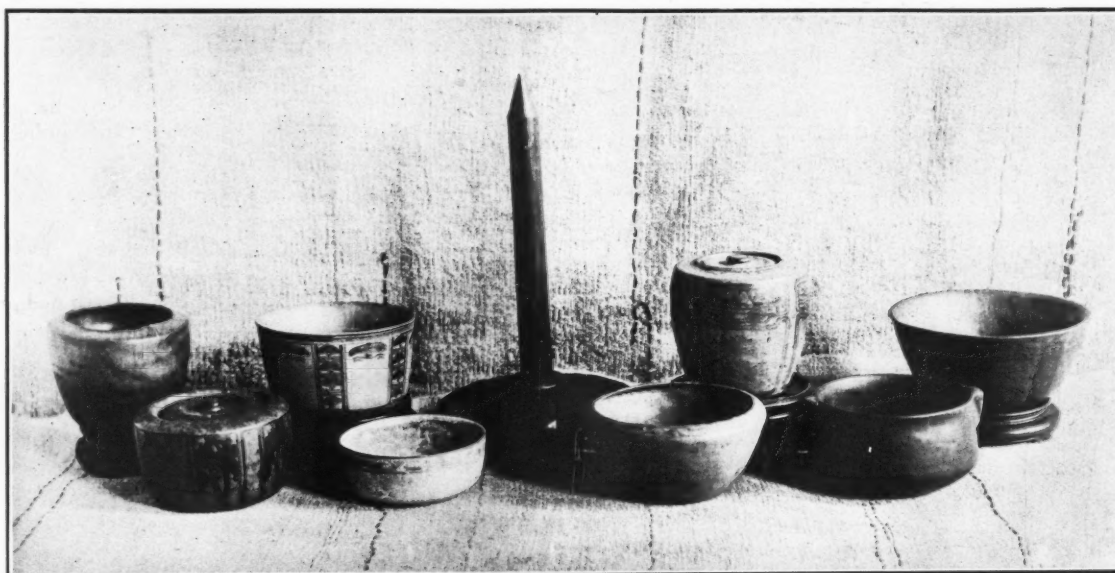
The tooled leather writing pad done by Mrs. C. H. Busck was treated in an interesting way, also the portiere by the Misses Ripley, but the exhibit in this craft was very small, there was also very little work in wood carvings.

The collection of hand bound books was of more than ordinary interest. The binding of the Greek Missal by Miss E. G. Starr, Chicago, was a good example of the quality of her work; the plaited leather thongs that fastened the Missal together gave it an added charm. The bindings by Peter Verberg, Chicago, do this craftsman the greatest credit. The opened book illustrated shows the careful interior work as well as the careful exterior finish. Miss Marot of Philadelphia showed also some good work in this line.

KERAMIC STUDIO

There was much work from the hands of the potter this year, Grueby, Dedham, Newcomb, Van Briggie, Volkmar, Mrs. Poillion and Miss McLaughlin being represented by examples of their well known work.

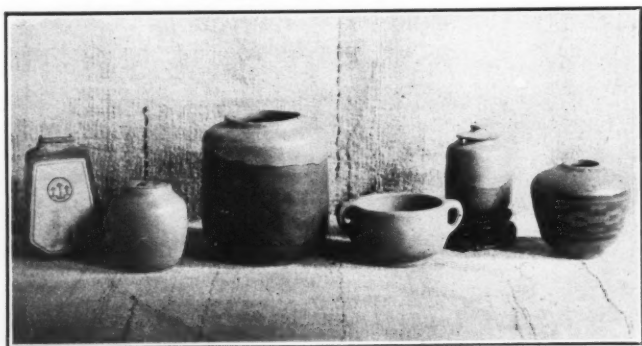
Several pieces of grand feu porcelains, fired in the studio at cones 9 and 10, were exhibited by Mrs. Alsop-Robineau, Mrs. Robineau uses mostly mat glazes, and the colors, so evidently a part of the vase, combined with a pleasing



BUILT POTTERY—MARSHAL FRY

Among the new work in this art we illustrate a group of interesting pieces of built pottery from the Alfred School, and another fine group by Mr. Marshal Fry. Mr. Fry's exhibit possesses an individual quality. The lines in every piece are

texture, make her work quite unusual. A small bowl with carved design in mat green and reddish mat brown, and a small jar with cover, in mat orange, were fine examples of color and texture.



Built Pottery—School of Ceramics, Alfred, N. Y.

so well thought out and frankly expressed in the simplest way. The note of color is refined and in perfect harmony with the shapes.



Grand Feu Porcelains, mat glazes—Adelaide Alsop Robineau

The jury of selection requested both Mrs. Robineau and Mr. Fry to send a number of pieces to the Art Palace of the St. Louis Exposition.



GRAND FEU PORCELAINS, MAT GLAZES—ADELAIDE ALSOP ROBINEAU



THE MAKING OF A CASSEROLE COVER

Ava M. Froehlich

ONE of the most attractive serving dishes for the dinner table is an earthen baking dish, transformed into a real art by adding a metal cover, which may be decorated with work of either a chased or an etched design of simple style. These are not difficult to make. Any one with a slight knowledge of metal work will have little trouble and will incur but slight expense in their manufacture.

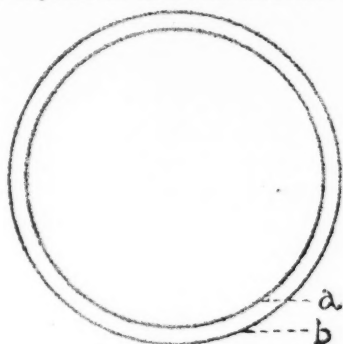


PLATE I

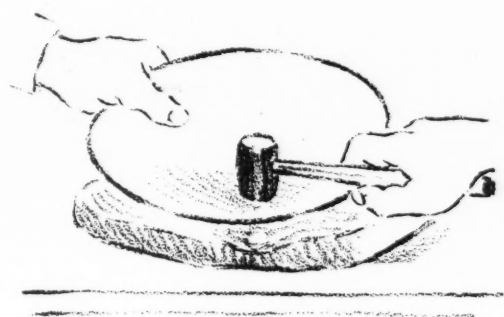


PLATE II

THE MATERIALS

10 inch of 21 gauge copper, 1 strip copper, $\frac{3}{8} \times \frac{1}{8}$ for the handle. The medium size casserole measures about 10 inches in diameter.

It is better to have the casserole to be covered on hand, as each is somewhat irregular in shape. These can be purchased at any department store for about 50 cents.

PROCEDURE

Invert the dish on the copper and with a sharp pointed tool trace its outline, taking care to get accurately the shape of the lip of the casserole. Outside this irregular circle and $\frac{1}{2}$ of an inch from it, draw a second parallel circle. Cut the copper along this line. Place the metal upon the sand bag (Fig. II)

and, with the round end of the wooden mallet, pound into it, beginning near the outer edge and continuing with close, even strokes to work spirally until the centre is reached. This will form the dome shape of the cover as shown in Fig. II. If the hammer marks have made the surface uneven, this may be remedied by going over the metal again in the same way.

To refine the metal place it on the anvil and pound closely with a hard wood or horn hammer. The edge may now be turned over to form a true lid by placing the circle ('a' Fig. V) on the edge of the hard wood profile which is held firmly in a vise, taking care to fit it carefully to the casserole.

APPLYING THE DESIGN

To prepare the metal for the design, clean it by immersing it in a sulphuric acid bath, made by dissolving 2 tablespoons of sulphuric acid in 2 gallons of hot water. Rinse and dry thoroughly. Then put it on the chasing pitch with the concave side up, melting the pitch and forming a good bed of it upon a block of wood, pressing the cover into it. Allow the pitch to cool. The following are appropriate motives for the design: Ducks, geese or rabbits, arranged in a border, or three turkeys with spread tails, crabs with suggestive lines of water and lobsters, fish or turtles, treated in a simple way. Scratch the design on the inside of the cover with a metal point, and, with a large dull outline tool (Fig. VI) trace the entire design by



PLATE III

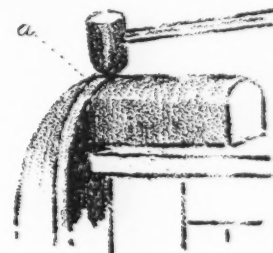


PLATE V

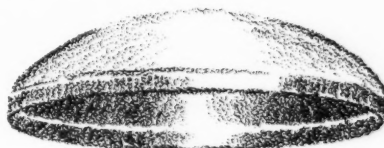


PLATE IV



PLATE VI



PLATE VII

holding the tool firmly in the left hand at a slight angle, against the metal and, with a chasing hammer strike the tool lightly to send it along the outline. Then with a heavy chasing tool (Fig. VII) pound down all the parts of the design that are to be in relief, having some parts more prominent than others. This fuller relief may be obtained by more vigorous hammering. Another method is to outline only the important parts of the design leaving the rest for suggestive modeling in the chasing. If the crab design is used, outline only those parts of it that are to be in highest relief as, for instance, the upper part near the eyes, and the extreme ends of the body. The claws may be treated in the same way, by outlining part of the back toward the tip where there is a chance for a decided accent. Treat the

tooth-like points on the inside with strong touches of relief. All the joints may be pounded down with the large chasing tool and one a trifle smaller of the same shape. No outline is necessary here. Suggestive lines of water running across at a slight angle after the relief is finished, will be very effective if put in simply.

Now we are ready to take the cover from the pitch by heating it with a gas flame, with sufficient intensity to melt the pitch. (A Bunsen burner is best here). Clean with kerosene and reverse the cover on the pitch. Refine some of the shapes by putting the background down with the smaller chasing tool, and accent others with the outline tool.

For the handle pound the ends of the strip of copper, $\frac{3}{8} \times \frac{1}{2}$ after annealing, until they are quite thin and large. Saw these ends into any shape suitable for riveting and turn the handle under and outward to suit the fancy. The handle in the illustration has been sawed through part of the length and each end has been turned forward and riveted onto the cover.

ANSWERS TO INQUIRIES

G. W.—There is a Cuban wood called Mahouja, it is a greenish grey in tone, rather loose grain and easy to carve. You would get a nice effect if you finish it with a dull polish.

Odetta—You will find much information on metal coloring in Arthur H. Hiorus' book on that subject, published by MacMillan & Co., New York.

K. M.—Jade is a very hard stone, but you can polish it on a wooden wheel with pumice and water or emery, with patience added. The greener the stone the more expensive.

Mrs. S. J. B.—The leaded lines in your cabinet doors could be finished with a dull black paint, but a softer and more natural finish comes by exposure to the atmosphere in a very short time. The copper straps and pulls such as you want for your desk, will be hard to find in the shops; they can be made by hand though, by almost any metal worker.



TRAY

Mrs. K. Wright

The tray by Mrs. K. Wright was made of Circassian Walnut, and the design carved in low relief. Turpentine and wax was used for a polish.

ANSWERS TO CORRESPONDENTS.

L. G.—Flux is used with mineral colors to insure a good glaze— $\frac{1}{4}$ as much flux as color for painting, $\frac{3}{4}$ as much for tinting, except for Apple Green, Sevres or Mixing Yellow and Pearl Grey which need no flux, too much flux weakens the color. To protect your eyes in doing pyrography work, you might use glass goggles, but can you not hold your work in such a way that the smoke will not come to your eyes. To get an underglaze effect one must either lay the tint on the biscuit and put glaze over it, or fire very hard the tint or ground put on over the glaze.

E. W. R.—You will find a good naturalistic study of grapes on a tankard published in *KERAMIC STUDIO*, and a fine conventionalized design of grapes for a punch bowl in Sept. 1902, *KERAMIC STUDIO*.

If you wish to fire your outline first, the only way to keep it clear is to wipe out the design with a cloth damp (not wet) with alcohol, after dusting or tinting the background, then paint in design and after retouching and firing go over the outlining again carefully with gold or black as the case may be. However, we would not advise firing a gold outline before putting in background as it is almost impossible to free it entirely from color—in that case draw design in India ink which will fire out, then when the painting, etc., is finished and fired, apply your gold outline.

If you use the English enamel or Aufsetzweis in powder color, we would advise mixing with just enough Dresden thick oil to hold it together—breathing on it frequently while mixing—thin with oil of lavender, breathing on it again till it follows the knife in a little point and does not settle back as if oily.

E. Y.—Underglaze painting is done on the biscuit or green clay before glazing—biscuit is the fired but unglazed body. Underglaze painting can usually be distinguished from the overglaze by its uniformly bright glaze and transparency of color. An overglaze painting is seldom uniformly well glazed and the color appears on the surface instead of being part of, or under the glaze.

Soft enamel is enamel that will only stand a light fire and hard enamel is that which will stand a hard fire.

Soft paste china is not made for amateur decoration—in fact the real soft paste is not made now-a-days—it would take an expert to tell the difference between soft and hard paste china. As a rule however, the French and German wares are hard, the English softer and less reliable for amateur work but very fine if it does come out well. A good piece of china is of a pure white, rather creamy than bluish in tone, without flaws or black specks. We seldom get perfect pieces in this country as the "seconds" only are sold for decoration, the best being selected for decoration at the manufactory. Almost all makes of foreign china are good for decoration. Haviland is always reliable as are most of the marked French and German pieces—the unmarked may be, but you must take your chances. Derby is not made for amateur decoration but it is one of the finest of English porcelains. Any further information you may desire we will be glad to furnish if your name is on our subscription list.

S. N. C.—If raised paste cracks while still adhering to the china, it doubtless had too much oil or turpentine in mixing—use just enough oil (fat or thick oil of turpentine) to make the powder stick together, breath on it frequently while mixing, thin with oil of lavender, breathing on it while mixing until it will stand up without softening. Work this into the cracks in your paste until you can get no more in, then dry thoroughly, cover with gold and fire, it will at least look better than before even if it should not come out perfect.

M. H. M.—For a black background, such as you describe, a mat black is used and dusted on with grounding oil. A very fine old piece of sandpaper is sometimes used for smoothing after firing, if it comes out rough. It is fired the same as anything else—a good rose color heat.

Mrs. B. G. D.—A discussion of the composition of colors is quite beyond the field of *KERAMIC STUDIO*, as we go into practical rather than scientific instruction—the latter can be studied at length in such works as Brongniart and Seger, which can be found in the public libraries. For practical use the only necessary information is that the gold colors may improve other colors in mixture but are always spoiled themselves by the adding of any other oxide. Carmines, pinks, violets and purples are gold colors. The perfect overglaze fire brings out the carmins or pinks a good rose color—too little fire leaves them brick red, too much gives a blueish tinge. The iron colors are the reds and browns, these lose in depth if fired too hard, they cannot be mixed with enamel as they fire out. The yellows are the strongest colors and should be used with care when combined with iron or gold colors as they destroy them if used too strong.

The blues are generally reliable and can be mixed with any color. The greens can be used with confidence except Moss green, Coalport green and other greens of that order, which, under certain conditions of the kiln not well understood, come out brownish in spots. Any further information from the point of view of the chemist must be sought in scientific works on pottery, porcelain or color making.

H. S. L.—Almost any of the good conventional designs given in *KERAMIC STUDIO* would look well in gold and white, a raised gold border and initial on a plate should be worth from \$3.00 to \$30.00 a plate, according to elaborateness and fineness of execution. A simple design well executed should be worth perhaps, \$5.00 a plate. Flat gold designs are effective and much cheaper if not really nicer for use than raised work. Will try to give some good alphabets soon in *KERAMIC STUDIO*. There is no known make of pink that will not turn purplish if overfired and brick red if underfired.

E. M. H.—In decorating glass, the same mediums are used as for china. The paints are specially prepared for glass, as is the gold for flat use. The Hancock's raised paste for china can be used on glass and the Roman gold for china can be used over it. The enamels are specially prepared for glass. Glass jewels are set in raised paste which is afterward gilded.